Application No.: 10/540,606 MAT-8716US

Amendment Dated: July 6, 2009

Reply to Office Action of: April 3, 2009

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the

application.

Listing of Claims:

1. (Currently Amended) A method for manufacturing a circuit board

comprising:

attaching a mask film to a substrate in at least one squeegee area, the mask

film including a first surface opposite a surface attached to the substrate;

forming a plurality of depressions in the first surface in the at least one

squeegee area, each depression defining a perimeter portion, each perimeter

portionsurrounded by a respective periphery having an elevation higher than an

elevation of the first surface;

forming a through-hole through the mask film and the substrate in the at least

one squeegee area; filling conductive paste into the through-hole by using a squeezing

operation in the at least one squeegee area; and

cleaning a squeegee using the formed plurality of depressions during the

squeezing operation.

2. (Currently Amended) A method for manufacturing a circuit board

comprising:

attaching a mask film to a substrate in at least one squeegee area, the mask

film including a first surface opposite a surface attached to the substrate;

forming a squeegee cleaning part at the first surface in the at least one

squeegee area, the squeegee cleaning part defining a perimeter portion having a

plurality of depressions in the first surface, each depression surrounded by a

respective periphery having an elevation higher than an elevation of the first surface;

forming a through-hole through the substrate and the mask film in the at least

one squeegee area;

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filling conductive paste into the through-hole by using a squeezing operation in the at least one squeegee area; and

cleaning a squeegee using the squeegee cleaning part during the squeezing operation,

wherein the squeegee cleaning part is formed at a predetermined position in the mask film before the filling of the conductive paste.

3. (Previously Presented) The method for manufacturing a circuit board of claim 1,

wherein the plurality of depressions are formed at a position which is not used to form a portion of the circuit board or an area outside of a product area of a pastefilling area of the mask film and within a printing range.

4. (Previously Presented) The method for manufacturing a circuit board of claim 1,

wherein each depression is a through-hole formed in the mask film.

5. (Previously Presented) The method for manufacturing a circuit board of claim 1,

wherein each depression is a linear groove formed at a paste-filling area of the mask film, the linear groove being formed so as not to penetrate through the substrate.

- 6. 7. (Cancelled)
- 8. (Previously Presented) The method for manufacturing a circuit board of claim 5,

wherein the forming of each linear groove of the mask film includes processing the linear groove using a cutting edge.

9. (Original) The method for manufacturing a circuit board of claim 8,

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wherein the cutting edge is a round blade.

10. (Original) The method for manufacturing a circuit board of claim 9,

wherein the round blade is fixed to a blade-fixing section having vertically sliding function with a certain load so as not to rotate.

- 11. (Previously Presented) The method for manufacturing a circuit board of claim 10, further comprising setting a depth of the linear groove and the elevation of the perimeter portion of the plurality of depressions by adjusting an edge angle of the round blade and a load.
- 12. (Previously Presented) The method for manufacturing a circuit board of claim 1,

wherein the elevation of the perimeter portion of each depression is above the first surface by $3\mu m$ or more.

13. (Previously Presented) The method for manufacturing a circuit board of claim 1,

wherein the substrate is a prepreg where resin material, whose main body is thermosetting resin, is impregnated into a fabric or a nonwoven fabric, thereby forming B-stage.

14. (Previously Presented) The method for manufacturing a circuit board of claim 13,

wherein aramid fabric is the main body of the fabric or the nonwoven fabric.

15. (Previously Presented) The method for manufacturing a circuit board of claim 13,

wherein glass fiber is the main body of the fabric or the nonwoven fabric.

16. (Previously Presented) The method for manufacturing a circuit board of claim 1, wherein:

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the filling of the conductive paste into the through-hole by using the squeezing operation comprises:

filling the conductive paste into the through-hole by reciprocating the squeegee on the circuit board; and

the cleaning of the squeegee using the formed plurality of depressions during the squeezing operation includes cleaning an edge of the squeegee by using the plurality of depressions.

17. - 22. (Cancelled)

23. (Previously Presented) The method for manufacturing a circuit board of claim 2,

wherein the predetermined position is a position which is not used to form a portion of the circuit board or an area outside of a product area of a paste-filling area of the mask film and within a printing range.

24. (Previously Presented) The method for manufacturing a circuit board of claim 2,

wherein the squeegee cleaning part is a linear groove formed at a paste-filling area of the mask film, the linear groove being formed so as not to penetrate through the substrate.

25. (Previously Presented) The method for manufacturing a circuit board of claim 24,

wherein the squeegee cleaning part is a plurality of the linear grooves.

- 26. (Cancelled)
- 27. (Previously Presented) The method for manufacturing a circuit board of claim 24,

wherein the forming of the linear groove of the mask film includes processing the linear groove using a cutting edge.

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28. (Previously Presented) The method for manufacturing a circuit board of claim 27,

wherein the cutting edge is a round blade.

29. (Previously Presented) The method for manufacturing a circuit board of claim 28,

wherein the round blade is fixed to a blade-fixing section having vertically sliding function with a certain load so as not to rotate.

- 30. (Previously Presented) The method for manufacturing a circuit board of claim 29, further comprising setting a depth of the linear groove and the elevation of the perimeter portion of the squeegee cleaning part by adjusting an edge angle of the round blade and the load.
- 31. (Previously Presented) The method for manufacturing a circuit board of claim 2,

wherein the elevation of the perimeter portion is above the first surface by $3\mu m$ or more.

32. (Previously Presented) The method for manufacturing a circuit board of claim 2,

wherein the substrate is a prepreg where resin material, whose main body is thermosetting resin, is impregnated into a fabric or a nonwoven fabric, thereby forming B-stage.

33. (Previously Presented) The method for manufacturing a circuit board of claim 32,

wherein aramid fabric is the main body of the fabric or the nonwoven fabric.

34. (Previously Presented) The method for manufacturing a circuit board of claim 32,

wherein glass fiber is the main body of the fabric or the nonwoven fabric.

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35. (Previously Presented) The method for manufacturing a circuit board of claim 2,

wherein the filling of the conductive paste into the through-hole by using the squeezing operation comprises:

filling the conductive paste into the through-hole by reciprocating the squeegee on the circuit board; and

the cleaning of the squeegee includes cleaning an edge of the squeegee by using the squeegee cleaning part.